APPENDIX

1. A method of compressing a portion of video information comprising:

receiving a first portion of video information;

compressing, transforming and encoding said first portion;

temporarily storing said compressed, transformed and encoded first portion [until a corresponding second portion is received];

receiving a second portion of video information;

compressing, transforming and encoding said second portion;

temporarily storing said compressed, transformed and encoded second portion;

decompressing and decoding said compressed first portion;

decompressing and decoding said second compressed portion; and

combining said first and second portions in the transform domain to produce a resultant portion, said resultant portion representing information from said first and second portions in a compressed form, whereby said method uses relatively less temporary storage and no reverse transform needs to be performed upon said first and second portions.

2. A method as recited in claim 1 further comprising:

further compressing said resultant portion into a stream of bits representing said video information.

5. A method as recited in claim 1 wherein said step of compressing includes the sub-step of:

transforming said first portion using a modified 2-6 Biorthogonal filter, whereby said video information may be compressed block-by-block without producing substantial blocking artifacts.

6. A method as recited in claim 1 wherein said steps of decompressing and combining are integrated and include the sub-steps of:

partially decoding said first portion;

performing a Haar comparison of said first and second portions; and

encoding the result of said Haar comparison to produce said resultant portion.

7. A method as recited in claim 1 wherein said step of combining includes the sub-step of:

performing a comparison of said first and second portions in a bit serial fashion, whereby said method may be performed relatively fast.

8. A method of compressing video information comprising:

receiving a first portion of a video image;

transforming said first portion of said image;

encoding said first portion;

temporarily storing said encoded first portion;

receiving a second portion of a video image;

transforming said second portion;

encoding said second portion;

temporarily storing said encoded second portion;

at least partially decoding said encoded first portion;

at least partially decoding said second encoded portion for [comparing] comparison with said decoded first portion [to a corresponding second portion] from a corresponding video image

in the transform domain to produce a resultant portion, said resultant portion representing information from said first and second portions; and

encoding said resultant portion to produce compressed video information, whereby a reduction in temporary storage is achieved and a reverse transform need not be performed upon said first and second decoded portions.

11. A method as recited in claim 8 wherein said step of transforming includes the sub-step of:

transforming said first portion using a modified 2-6 Biorthogonal filter, whereby said video information may be compressed block-by-block without producing substantial blocking artifacts.

12. A method as recited in claim 8 wherein said steps of partially decoding and comparing are integrated and include the sub-step of:

performing a Haar comparison of said first and second portions.

13. A method as recited in claim 8 wherein said step of comparing includes the sub-step of:

performing a comparison of said first and second portions in a bit serial fashion, whereby said method may be performed relatively fast.

14. A method of compressing video information comprising:

receiving a plurality of first portions representing a first video image;

temporarily compressing, transforming and encoding said first portions;

temporarily storing said first portions until a second plurality of portions from a second corresponding video image begin to arrive;

compressing, transforming and encoding said second portions;

temporarily storing said compressed second portions;

decompressing and decoding said first portions;

decompressing and decoding said second compressed portions for combination with said decompressed first portions;

comparing said first portions with said second portions in the transform domain to produce resultant portions that represent said first and second video images; and

compressing said resultant portions to produce compressed video information, whereby less temporary storage is needed and a reverse transform need not be performed upon said first and second portions.

17. A method as recited in claim 14 wherein said step of temporarily compressing includes the sub-step of:

transforming said first portions using a modified 2-6 Biorthogonal filter, whereby said video information may be compressed block-by-block without producing substantial blocking artifacts.

18. A method as recited in claim 14 wherein said steps of decompressing and comparing are integrated and include the sub-steps of:

partially decoding said first portions;

performing Haar comparisons of said first and second portions; and

encoding the results of said Haar comparisons to produce said resultant portions.

19. A method as recited in claim 14 wherein said step of comparing includes the sub-step of:

performing a comparison of said first and second portions in a bit serial fashion, whereby said method may be performed relatively fast.

20. An integrated circuit for compression of video information comprising:

an incoming block storage unit;

a compression module for temporary compression of blocks of video information;

temporary block storage for storage of compressed blocks;

a decompression unit for partially decompressing said compressed blocks;

a comparison unit for comparing decompressed blocks of a first video image with corresponding decompressed blocks from a corresponding second video image, said comparison unit being arranged to produce comparison information representing said first and second video images; and

a compression unit for compressing said comparison information from said comparison unit to produce a compressed stream of bits representing said first and second video images, wherein the compression unit transforms and encodes said blocks, partially decodes said compressed blocks, and wherein said comparison unit compares said blocks in the transform domain, whereby a reverse transform need not be performed upon said blocks.

22. An integrated circuit as recited in claim 20 wherein said compression module transforms said blocks using a modified 2-6 Biorthogonal filter, whereby said video information may be compressed block-by-block without producing substantial blocking artifacts.

23. An integrated circuit as recited in claim 20 wherein said decompression unit, said comparison unit and said compression unit are integrated into a Haar unit, said Haar unit being arranged to partially decode said compressed blocks, to perform a Haar comparison of said decoded blocks of said first and second video images, and to encode the result of said Haar comparison to produce said comparison information.

24. An integrated circuit as recited in claim 20 wherein said comparison unit performs comparison of said decompressed blocks in a bit serial fashion, whereby said comparison may be performed relatively fast.

25. An integrated circuit arranged to perform the following:

receiving a first portion of video information;

compressing, transforming and encoding said first portion;

temporarily storing said compressed first portion until a corresponding second portion is received;

compressing, transforming and encoding said second portion;

temporarily storing said compressed second portion;

decompressing and decoding said compressed first portion;

decompressing and decoding said second compressed portion for combination with said decompressed first portion; and

combining said first and second portions in the transform domain to produce a resultant portion, said resultant portion representing information from said first and second portions in a compressed form, whereby said integrated circuit uses relatively less temporary storage and a reverse transform need not be performed upon said first and second portions.

26. An integrated circuit as recited in claim 25 being further arranged to perform the following:

further compressing said resultant portion into a stream of bits representing said video information.

29. An integrated circuit as recited in claim 25 being further arranged such that said compressing includes:

transforming said first portion using a modified 2-6 Biorthogonal filter, whereby said video information may be compressed block-by-block without producing substantial blocking artifacts.

30. An integrated circuit as recited in claim 25 being further arranged such that said decompressing and said combining are integrated and include:

partially decoding said first portion;

performing a Haar comparison of said first and second portions; and

encoding the result of said Haar comparison to produce said resultant portion.

31. An integrated circuit as recited in claim 25 being further arranged such that said combining includes:

performing a comparison of said first and second portions in a bit serial fashion, whereby said method may be performed relatively fast.

32. A method of decompressing compressed video information comprising:

receiving a compressed bit stream of video information including a compressed portion;

performing a reverse combination <u>in the transform domain</u> on said compressed portion to produce two corresponding portions of video information, said two portions representing said compressed portion in a less compressed form;

temporarily storing said two portions of video information as said reverse combination is being performed;

<u>transforming, decoding and</u> decompressing one of said two portions of video information to produce a decompressed portion of video information; and

outputting said decompressed portion of video information, whereby said method uses relatively less temporary storage.

33. An integrated circuit for decompression of video information comprising:

a decompression unit that decompresses a compressed stream of bits into a portion of video information that represents first and second video images;

a reverse comparison unit that receives said portion of video information and produces decompressed blocks of said first video image and decompressed blocks from said second video image, both decompressed blocks in a transform domain;

a compression unit that partially compresses said decompressed blocks of said first and second video images;

temporary block storage for storage of said [decompressed] compressed blocks;

a decompression module for transforming, decoding and decompression of said [decompressed] compressed blocks that have been temporarily stored; and

an outgoing block storage unit.

34. An integrated circuit for decompressing compressed video information arranged to perform the following:

receiving a compressed bit stream of video information including a compressed portion;

performing a reverse combination on said compressed portion to produce two corresponding portions of video information, said two portions representing said compressed portion in a less compressed form in a transform domain;

temporarily storing said two portions of video information as said reverse combination is being performed;

transforming, decoding and decompressing one of said two portions of video information to produce a decompressed portion of video information; and

outputting said decompressed portion of video information, whereby said integrated circuit uses relatively less temporary storage.